



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,763	03/10/2004	Michael D. Ruminer		5886
7590	06/06/2007		EXAMINER	
MICHAEL D. RUMINER			RUTTEN, JAMES D	
340 WASHINGTON ST.				
NORWELL, MA 02061			ART UNIT	PAPER NUMBER
			2192	
			MAIL DATE	DELIVERY MODE
			06/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/797,763	Applicant(s) RUMINER ET AL.
	Examiner J. Derek Ruttan	Art Unit 2192

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 10 March 2004.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-31 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-31 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date <u>6/10/04</u>	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

1. Claims 1-31 have been examined.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 12-24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works, and a compilation or mere arrangement of data.

Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized.

Claim 12 is directed to an “automated system,” comprised of rules, identifiers, and attributes. There do not appear to be any physical components in this system and so is interpreted as descriptive material. Further, the system appears to be a compilation or mere arrangement of data without any specific data manipulation functions. Thus, the claim appears to be directed to nonfunctional descriptive material. Claims 13, 15-17 and 23 also appear to be directed to nonfunctional descriptive material, while claims 14, 18-22, and 24 provide some type of data manipulation function and appear to be directed to functional descriptive material. However, none of the claims are recorded on any computer-readable medium, and thus are claimed as descriptive material *per se*, and so are nonstatutory. See MPEP 2106.01.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 5, 9, 11, 12, 15, 16, 23, 25, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Application Publication No. US 2002/0062477 A1 by Sasaki (hereinafter “Sasaki”).

In regard to claim 1, Sasaki discloses:

A method for identifying which business rule or rules relate to a certain segment of source or object code - See Fig. 3. Sasaki discloses a method for extracting code

specification comment statements from source code and identifying the associated code segments using a unique comment keyword. Note that the term “business rule” as used in the claim is reasonably broadly interpreted in terms of Sasaki’s code specification, according to section 2, “Description of the Related Art,” appearing on pages 1-6 of Applicants’ originally filed specification (especially the first paragraph of section 2). *comprising the steps of:*

- (a) *identifying a set of business rules;* See Fig. 3, e.g. step S1, “...EXTRACTING FIRST SET OF COMMENT STATEMENTS FROM SOURCE CODE.”
- (b) *providing each business rule with a business rule unique identifier;* and See Fig. 3, e.g. step S2, “SET COMMENT KEYWORD.”
- (c) *attaching an attribute to a segment of code, wherein the attribute contains the business rule unique identifier.* See Fig. 3, e.g. step S4, “INSERT COMMENT KEYWORD INTO SOURCE CODE.” Note that the attribute is reasonably broadly interpreted as Sasaki’s comment keyword.

In regard to claim 2, the above rejection of claim 1 is incorporated. Sasaki further discloses: *validating the business rule at coding time.* See paragraph [0098].

In regard to claim 5, the above rejection of claim 1 is incorporated. Sasaki further discloses: *validating at coding time the existence of a business rule.* See Fig. 19 element S409.

In regard to claim 9, the above rejection of claim 1 is incorporated. Sasaki further discloses: *wherein the business rules are contained in a business rule repository.* See paragraph [0062].

In regard to claim 11, the above rejection of claim 1 is incorporated. Sasaki further discloses: *utilizing a business rule source code cross-reference index to store metadata on the relationships between certain segments of source or object code and the business rules.* See Fig. 4.

In regard to claim 12, Sasaki discloses:

An automated system - See paragraph [0045], e.g. “program specification generating system.” Note that Fig. 1 depicts the corresponding hardware system. *comprising:*

(a) a set of business rules; See Fig. 3, e.g. step S1, “...EXTRACTING FIRST SET OF COMMENT STATEMENTS FROM SOURCE CODE.” Note that Sasaki’s comment statements are used as code specifications which are interpreted as business rules as pointed out in the rejection of claim 1 above.

(b) a set of business rule unique identifiers, wherein each business rule unique identifier corresponds to one and only one business rule; and See Fig. 4 and paragraphs [0023], [0061], and [0062], e.g. “comment database.” Also see paragraph [0015], e.g. “statements are individually managed by their own comment keywords.”

(c) one or more attributes attached to one or more segments of source or object code, wherein each attribute contains at least one business rule unique identifier. See Fig. 3, e.g. step S4, “INSERT COMMENT KEYWORD INTO SOURCE CODE.” Note that the attribute is reasonably broadly interpreted as Sasaki’s comment keyword.

In regard to claim 15, the above rejection of claim 12 is incorporated. All further limitations have been addressed in the above rejection of claim 11.

In regard to claim 16, the above rejection of claim 12 is incorporated. Sasaki further discloses: a business rule source code cross-reference engine. See paragraph [0085].

In regard to claim 23, the above rejection of claim 12 is incorporated. Sasaki further discloses: *a cross-reference search tool* See Fig. 3, element S1. *and a user interface for the cross-reference search tool.* See Fig. 6.

In regard to claim 25, Sasaki discloses a computer readable medium having computer executable instructions. See paragraph [0013], e.g. “storage medium containing a specification generating program.” All further limitations have been addressed in the above rejection of claim 2.

In regard to claim 28, Sasaki discloses a computer readable medium having computer executable instructions. See paragraph [0013], e.g. “storage medium containing a specification generating program.” All further limitations have been addressed in the above rejection of claim 5.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
7. Claims 3, 6, 26, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki as applied to claim 1 above, and further in view of U.S. Patent 5,995,736 to Aleksic et al. (hereinafter “Aleksic”).

In regard to claim 3, the above rejection of claim 1 is incorporated. Sasaki further discloses: *validating the business rule* See paragraph [0098]. Sasaki does not expressly disclose validating *at compile time*. However, Aleksic teaches validating at compile time. See column 4 lines 30-37. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Aleksic’s compile time validation with Sasaki’s validation in order to verify that written code accurately meets a specification as suggested by Aleksic.

In regard to claim 6, the above rejection of claim 1 is incorporated. All further limitations have been addressed in the above rejections of claims 3 and 5.

In regard to claim 26, Sasaki discloses a computer readable medium having computer executable instructions. See paragraph [0013], e.g. “storage medium containing a specification generating program.” All further limitations have been addressed in the above rejection of claim 3.

In regard to claim 29, Sasaki discloses a computer readable medium having computer executable instructions. See paragraph [0013], e.g. “storage medium containing a specification generating program.” All further limitations have been addressed in the above rejection of claim 6.

8. Claims 4, 7, 27, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki as applied to claim 1 above, and further in view of U.S. Patent Application Publication No. US 2003/0192033 A1 by Gartside et al. (hereinafter “Gartside”).

In regard to claim 4, the above rejection of claim 1 is incorporated. Sasaki further discloses: *validating the business rule* See paragraph [0098]. Sasaki does not expressly disclose validating *on demand*. However, Gartside teaches validating on demand. See paragraph [0031]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Gartside’s on demand validation with Sasaki’s

validation in order to provide validation as a regular, possibly scheduled, event, as suggested by Gartside.

In regard to claim 7, the above rejection of claim 1 is incorporated. All further limitations have been addressed in the above rejections of claims 4 and 5.

In regard to claim 27, Sasaki discloses a computer readable medium having computer executable instructions. See paragraph [0013], e.g. “storage medium containing a specification generating program.” All further limitations have been addressed in the above rejection of claim 4.

In regard to claim 30, Sasaki discloses a computer readable medium having computer executable instructions. See paragraph [0013], e.g. “storage medium containing a specification generating program.” All further limitations have been addressed in the above rejection of claim 7.

9. Claims 8 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki as applied to claim 1 above, and further in view of U.S. Patent Application Publication No. US 2005/0066319 A1 by DeLine et al (hereinafter “DeLine”).

In regard to claim 8, the above rejection of claim 1 is incorporated. Sasaki does not expressly disclose: *querying compiled code for the use of a given business rule.*

However, DeLine teaches querying compiled code for compliance with a specification. See paragraph [0011]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use DeLine's compiled code with Sasaki's business rules in order to check for fault conditions as suggested by DeLine.

In regard to claim 31, Sasaki discloses a computer readable medium having computer executable instructions. See paragraph [0013], e.g. "storage medium containing a specification generating program." All further limitations have been addressed in the above rejection of claim 8.

10. Claims 10, 13, 14, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki as applied to claims 9 and 12 above, and further in view of U.S. Patent Application Publication No. US 2002/0184610 A1 by Chong et al. (hereinafter "Chong").

In regard to claim 10, the above rejection of claim 9 is incorporated. Sasaki further discloses: *utilizing a business rule source code cross-reference [code] to add a business rule that is represented by a particular business rule unique identifier to the business rule repository.* See Fig. 3, element S1. Sasaki does not expressly disclose a *plug-in*. However, Chong teaches the use of a plug-in. See paragraph [0150]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Chong's plug-in with Sasaki's business rules in order to provide additional functionality as suggested by Chong.

In regard to claim 13, the above rejection of claim 12 is incorporated. All further limitations have been addressed in the above rejection of claim 10.

In regard to claim 14, the above rejection of claim 13 is incorporated. Sasaki does not expressly disclose: *an integrated development environment (IDE) with a plug-in interface, wherein the business rule source code cross-reference plug-in communicates with the IDE via the plug-in interface.* However, Chong teaches the use of an IDE that communicates with a plug-in through a plug-in interface. See Fig. 7, element 508. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Chong's plug-in interface and IDE with Sasaki's code in order to provide additional functionality as suggested by Chong (see paragraph [0150]).

In regard to claim 24, the above rejection of claim 23 is incorporated. Sasaki does not expressly disclose: *wherein the cross-reference search tool interacts with external applications.* However, Chong teaches the use of an IDE that communicates with an external plug-in through a plug-in interface. See Fig. 7, element 508. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Chong's plug-in interface and IDE with Sasaki's code in order to provide additional functionality as suggested by Chong (see paragraph [0150]).

11. Claims 17 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki as applied to claim 16 above, and further in view of Aleksic and DeLine.

In regard to claim 17, the above rejection of claim 16 is incorporated. Sasaki further discloses: *wherein the business rule source code cross-reference engine comprises a ... code indexer* (See Fig. 4), *a source code verifier* (see paragraph [0098]), *an index query engine* (See Fig. 4.). Sasaki does not expressly disclose: a *compiled object verifier*, *compiled object indexer*, and *a compiled object code query engine*. However, Aleksic teaches a compiled object verifier. See column 4 lines 49-53. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Aleksic's teaching of compiled objects with Sasaki's verifier and indexer in order to verify that an object accurately meets a specification as suggested by Aleksic. Further DeLine teaches a compiled object query engine. See paragraph [0011]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use DeLine's compiled code with Sasaki's business rules in order to check for fault conditions as suggested by DeLine.

In regard to claim 19, the above rejection of claim 17 is incorporated. Sasaki further discloses: *wherein the ... code indexer indexes to a repository the attributes in the ... code*. See Fig. 4. All further limitations have been addressed in the above rejection of claim 17.

In regard to claim 20, the above rejection of claim 17 is incorporated. Sasaki further discloses: *wherein the source code verifier takes source code segments, parses out the attributes from the source code, and validates the attributes.* See paragraph [0098]. Note that identification of a comment keyword by Sasaki inherently requires parsing since the keyword could not be identified from the source code without parsing.

In regard to claim 21, the above rejection of claim 17 is incorporated. Sasaki further discloses: *a business rule source code cross-reference index, wherein the index query engine provides result sets based on given criteria as compared against the business rule source code cross-reference index.* See Fig. 19.

12. Claims 18 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki, Aleksic and DeLine as applied to claim 17 above, and further in view of U.S. Patent 6,085,198 to Skinner et al. (hereinafter “Skinner”).

In regard to claim 18, the above rejection of claim 17 is incorporated. Sasaki, Aleksic, and DeLine does not expressly disclose: *wherein the compiled object code verifier takes compiled attributed object code and verifies as a post-compile process the existence of a particular business rule according to the attributes within the object code.* However, Skinner teaches a post-compile process (i.e. “reflection”) for inspection of attributes in objects. See column 19 lines 10-17. All further limitations have been addressed in the above rejection of claim 6. It would have been obvious to one of

ordinary skill in the art at the time the invention was made to use Skinner's reflection with Sasaki's verification in order to permit access to attributes by other objects as suggested by Skinner.

In regard to claim 22, the above rejection of claim 17 is incorporated. Sasaki further discloses: *wherein the attributes contain metadata, (see Fig. 4.) and wherein the compiled object code query engine performs one or more searches ... and returns a result set based on the attribute metadata and the search criteria.* See Fig. 19. Sasaki does not expressly disclose searches *against compiled attributed object code*. However, Skinner teaches searching *compiled attributed object code* See column 19 lines 10-17. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Skinner's reflection with Sasaki's verification in order to permit access to attributes by other objects as suggested by Skinner.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Derek Rutten whose telephone number is (571)272-3703. The examiner can normally be reached on M-F 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571)272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2192

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jdr



TUAN DAM
SUPERVISORY PATENT EXAMINER